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Assistant Commissioner for Patents

File No. 16051-10US

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (currently amended): A method of screening to identify a compound that alters binding of an oligonucleotide to at least one viral component, wherein the viral component is different from a retroviral nucleocapsid protein, said method comprising

in separate reactions, contacting said oligonucleotide with said viral component in the presence and absence of a compound to be screened; and

determining whether a difference occurs in binding of said oligonucleotide to said viral component in the presence of said compound compared to in the absence of said compound, the presence of said difference being indicative of said compound altering the binding of said oligonucleotide to said viral component.

Claim 2 (original): The method of claim 1, wherein said compound is a small molecule.

Claim 3 (original): The method of claim 1, wherein at least 1000 compounds are screened.

Claim 4 (original): The method of claim 1, wherein at least 10,000 compounds are screened.

Claim 5 (withdrawn): The method of claim 1, wherein said viral component is from a DNA virus.

Claim 6 (original): The method of claim 1, wherein said viral component is from a RNA virus.

Claim 7 (original): The method of claim 1, wherein said viral component is from HIV.

Claim 8 (withdrawn): The method of claim 1, wherein said viral component is from HSV.

Claim 9 (withdrawn): The method of claim 1, wherein said viral component is from RSV.

Claim 10 (original): The method of claim 1, wherein said oligonucleotide is at least 2 nucleotides in length.

Claim 11 (original): The method of claim 1, wherein said oligonucleotide is at least 5 nucleotides in length.

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Claim 12 (original): The method of claim 1, wherein said oligonucleotide is at least 10 nucleotides in length.

Claim 13 (original): The method of claim 1, wherein said oligonucleotide is at least 15 nucleotides in length.

Claim 14 (original): The method of claim 1, wherein said oligonucleotide is at least 20 nucleotides in length.

Claim 15 (original): The method of claim 1, wherein said oligonucleotide is at least 30 nucleotides in length.

Claim 16 (original): The method of claim 1, wherein said oligonucleotide is at least 40 nucleotides in length.

Claim 17 (original): The method of claim 1, wherein said oligonucleotide is at least 80 nucleotides in length.

Claim 18 (withdrawn): A novel antiviral compound identified by the method of claim 1.

Claim 19 (withdrawn): A method for purifying oligonucleotides binding to at least one viral component from a pool of oligonucleotides comprising:

contacting said pool with at least one viral component;

displacing bound oligonucleotides of said pool from said component; and
collecting displaced oligonucleotides.

Claim 20 (withdrawn): The method of claim 19, further comprising sequencing, and testing antiviral activity of collected displaced oligonucleotides.

Claim 21 (withdrawn): The method of claim 19, wherein said viral component is bound to a solid phase medium.

Claim 22 (withdrawn): The method of claim 20, wherein said displaced oligonucleotides are further chemically modified oligonucleotides.

Claim 23 (withdrawn): A method for enriching oligonucleotides from a pool of oligonucleotides binding to at least one viral component, comprising:

contacting said pool with at least one viral component; and

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amplifying oligonucleotides bound to said viral components to provide an enriched oligonucleotide pool.

Claim 24 (withdrawn): The method of claim 23, wherein said contacting and amplifying are performed at least one additional time using said enriched oligonucleotide pool as the pool of oligonucleotides, thereby providing at least one further enriched oligonucleotide pool.

Claim 25 (withdrawn): The method of claim 23, further comprising sequencing and testing antiviral activity of oligonucleotides in said enriched oligonucleotide pool.

Claim 26 (withdrawn): The method of claim 24, further comprising sequencing and testing antiviral activity of oligonucleotides in at least one further enriched oligonucleotide pool.

Claim 27 (withdrawn): The method of claim 23, wherein the oligonucleotides in said enriched oligonucleotide pool exhibit higher mean binding affinity with one or more of said viral components than the mean binding affinity of oligonucleotides in the initial pool of oligonucleotides.

Claim 28 (withdrawn): The method of claim 26, wherein said oligonucleotides are further chemically modified.

Claim 29 (withdrawn): The method of claim 23, further comprising selecting at least one oligonucleotide from said enriched oligonucleotide pool.

Claim 30 (withdrawn): The method of claim 29, wherein said selecting comprises eliminating oligonucleotides from said enriched oligonucleotide pool having sequences identical to a sequence from the virus or viruses from which said viral components are derived.

Claim 31 (withdrawn): An antiviral oligonucleotide preparation comprising one or more oligonucleotides identified using a method of claim 19 or 23, wherein said oligonucleotides in said oligonucleotide preparation exhibit higher mean binding affinity with one or more of said viral components than the mean binding affinity of oligonucleotides in the initial oligonucleotide pool.

Claim 32 (withdrawn): The antiviral oligonucleotide preparation of claim 31, wherein the mean binding affinity of said oligonucleotides is at least two-fold greater than the mean binding affinity of oligonucleotides in the initial oligonucleotide pool.

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Claim 33 (withdrawn): The method of claim 19, wherein at least one said oligonucleotide in said pool of oligonucleotides comprises at least one chemical modification.

Claim 34 (withdrawn): The method of claim 33, wherein said chemical modification is a phosphorothioate linkage.

Claim 35 (withdrawn): The method of claim 28, wherein the chemical modifications in said oligonucleotides comprise at least one phosphorothioate linkage.

Claim 36 (withdrawn): The method of claim 31, wherein at least one nucleotide in said identified oligonucleotides comprises at least one phosphorothioate linkage.